RT1-series
RT100

OMRON

Safety Precautions

Thank you for purchasing an RT1-series SiteManager.
To ensure the safe usage of the product, read and understand this document carefully.
Keep this document in a safe place, and make sure that it is delivered to the final user of the product.

OMRON Corporation

Trademarks

- Company names and product names in this document are the trademarks or registered trademarks of their respective companies.
- The RT1-Series Remote Access solution is an Omron labeled product that is developed by Secomea. Secomea is a leading manufacturer of industrial communication equipment with a strong focus on security and usability of the products.

Safety Precautions

■ Definition of Precautionary Information

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Additionally, there may be severe property damage.
⚠ Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

■ Safety Precautions

⚠ WARNING

- In order for this product to conform with the safety certifications, it must be installed in a Restricted Access Location.
- Do not attempt to disassemble, repair, or modify the product in any way. Doing so may result in malfunction or fire.
- Make sure that only competent and skilled personel performs installation and configuration of the RT1 unit. Incorrect installation or non-recommended security settings can put your system at risk.
- Make sure your RT1 unit always has the latest firmware version installed for best functionality and cyber security protection.
- Do not connect the DEV and UPLINK ports to the same physical network. Doing so can put your system at risk.
- Do not assign the DEV address in the same logical network as the UPLINK port. Doing so can put your system at risk.

Precautions for Safe Use

- Always use a power supply that provides power within the product's specified range.
- Do not bend or pull the cables beyond normal limit. Do not place heavy objects on top of the cables or other wiring lines. Doing so may break the cables.
- Do not drop the product or subject it to abnormal vibration or shock. Doing so may result in product malfunction or burning.
- After making changes to the unit's wiring, make sure to double-check all connections before turning ON the power supply. Incorrect connections can cause permanent damage to the unit or your system.
- When unpacking, check carefully for any external scratches or other damages. Also, shake the product gently and check for any abnormal sound.
- Regularly inspect and check the SiteManager to make sure its surface is unbroken and that there are no signs of damages to the SiteManager. If the surface is broken or there are signs of damages to the SiteManager immediately disconnect the SiteManager.
- Dispose of the product according to local ordinances as they apply.

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Precautions for Correct Use

- Do not operate or store the product in the following locations. Operation may stop or malfunctions may occur.
  * Locations subject to direct sunlight
  * Locations subject to temperatures or humidity outside the range specified in the specifications
  * Locations subject to condensation as the result of severe changes in temperature
  * Locations subject to corrosive or flammable gases
  * Locations subject to dust (esepcially iron dust) or salts
  * Locations subject to exposure to water, oil or chemicals
  * Locations subject to shock or vibration
- Take appropriate and sufficient countermeasures when installing the product in the following locations.
  * Locations subject to strong, high-frequency noise
  * Locations subject to static electricity or other forms of noise
  * Locations subject to strong electromagnetic fields
  * Locations subject to possible exposure to radioactivity
  * Locations close to power lines
- Always touch a grounded piece of metal to discharge static electricity from your body before starting an installation or maintenance procedure.
- Do not allow wire clippings, shavings, or other foreign material to enter the product. Otherwise, burning, failure, or malfunction may occur. Cover the product or take other suitable countermeasures,especially during wiring work.

Overview RT100
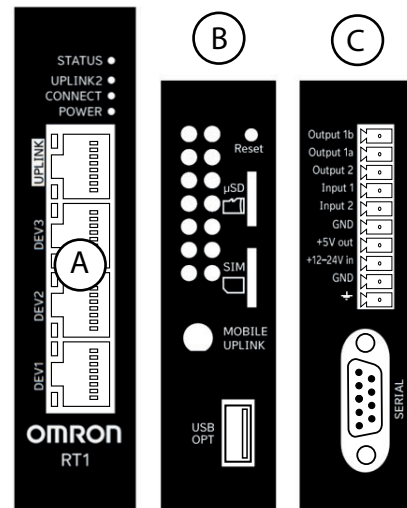
The layout may differ, depending on your configuration.

Ⓐ Front view with Ethernet Ports and LED Indicators.

Ⓑ Top view with (micro)SIM slot, Mobile Uplink and USB Connectors.

Ⓒ Bottom view with Electrical connections, IO Ports and Serial Port

■ Ethernet Ports

Use a standard Ethernet patch cable (straight or cross over) to connect the UPLINK port to a switch in a network that has access to the Internet.
Note: This is not applicable for models using WiFi or 4G.
Connect:

- Only the UPLINK port to only access equipment on the Uplink side. Ⓐ
- Uplink and DEV(s) to an existing or a separate network. Ensure the connected network is separate from the UPLINK network. Ⓑ
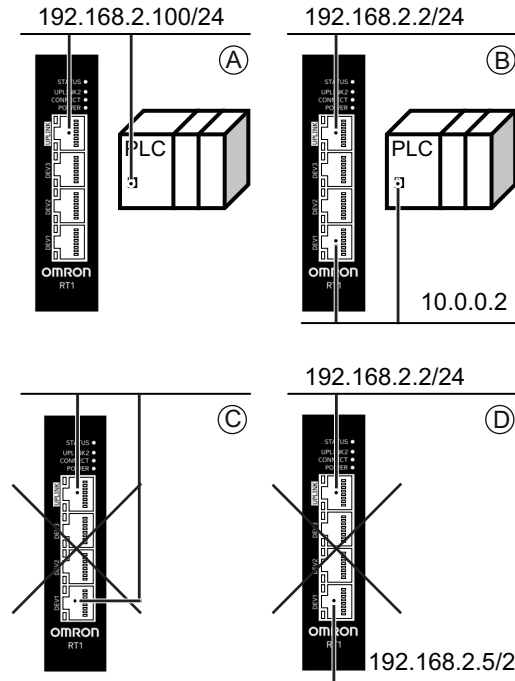
Note:

- Do NOT connect DEV and UPLINK to the same physical network. Ⓒ
- Do NOT assign DEV address to the same logical network as the UPLINK address. Ⓓ

■ LED Indicators

The LED indicators supply status information.
Note that it may take some time for the Status LED to reflect a new state. For instance a GM Disconnect may take up to 4 minutes to be reflected, depending on the Keep-alive Interval setting on the GateManager.

Models RT100	Status	Connect
Booting	Red Blinking steadily	-
GateManager Connecting or Disconnected	Red Blinks twice	-
● Remote Management is disabled via INPUT1 or SiteManager GUI ● SiteManager in SMS Wakeup mode	-	Long pause + 2 Green blinks
GateManager Connected	Green ON	-
● UPLINK is physically disconnected ● GateManager configuration is missing in the SiteManager ● No route to GateManager host due to its address being configured as DNS name, and a DNS server is not configured or is not reachable/working	Red ON	-
LinkManager Connected	-	Green ON

Model RT100-W5M3010 (WiFi)	UPLINK2
● No WiFi SSID configured ● SSID configured but no WiFi Key configured ● SSID and WiFi Key configured, but no access point found matching the SSID	OFF
WiFi SSID Found but not connected yet. Possible WiFi Key error.	2 Green Blinks
WiFi connected successfully.	Green ON

Model RT100-4GM3010 (3G / 4G)	UPLINK2
No SIM card detected	OFF
Wrong or missing SIM Pin code	3 Green Blinks
SIM PIN code OK, but no connection. (Trouble shoot in SiteManager GUI)	2 Green Blinks
GPRS connected (slow connection)	Green ON + 1 Green Blink
3G or 4G connected (fast connection)	Green ON
SiteManager is in SMS Wakeup mode	Long pause + 2 Green Blinks

■ USB Connectors

The USB port limits the power consumption for peripheral devices to 500mA per USB connector. This complies with the USB 2.0 standard.

■ IO Ports

- **Digital Input Port 1 and 2**
  Input Port 1 = default assigned to toggle GateManager access. Connect an ON/OFF switch to control when remote service should be allowed.
  STATES:
  • ON = 0.16V or less
  • Undefined = 0.16V to 2.34V
  • OFF = 2.34V to 3.3V
  • OFF = not connected (10 kΩ pulll-up resistor to 3.3V)
- **Relay Output 1**
  Default configured to ON when a LinkManager is connected.
  TIP: Connect a lamp to notify users the device is being serviced.
  STATES:
  • OFF = pins isolated
  • ON = pins connected

  SPECS:
  Max. sink current = 0.5A
  Max. voltage = 24V
- **Digital Output 2**
  STATES:
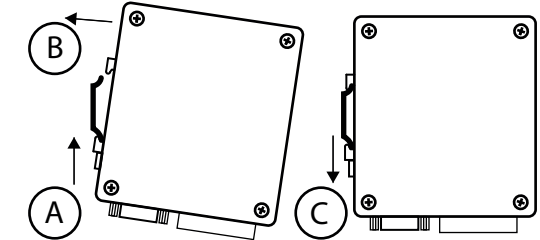 • OFF = Impedance min. 24 MΩ
  • ON = Impedance max. 0.5 Ω

  SPECS:
  Open drain type = The voltage must be supplied by an external source (max 24V) or from the Vout ping(5V).
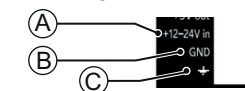 Max sink current = 0.2A

Mechanical Installation

DIN Rail Mounting

1. Position the bottom of the SiteManager against the DIN rail and push the SiteManger up Ⓐ.
2. In the upper position tilt the SiteManager horizontal. Ⓑ
3. Lower and release the SiteManager. Ⓒ
4. Ensure it is securely mounted.

Electrical Installation

Power Connection

Ⓐ Connect 12 - 24V DC

Ⓑ Connect to 0V

Ⓒ Connect earth ground to reduce interference signals

Power consumption: Max 6 W.

Software Installation

1. Connect to the internet (3 methods mentioned below)
2. Connect to the GateManager (mentioned below)
3. Configure the GateManager
4. Configure the SiteManager
5. Use LinkManager

■ Use UPLINK to Access the Internet

The SiteManager requires being able to access the Internet via an UPLINK port in order to target a GateManager server. By default it will receive its IP address by DHCP, and you only need to manually configure the UPLINK if you will use a fixed IP on UPLINK.
Select one of the following 4 methods:

1. Use the Appliance Launcher

    a. Download and install the Appliance Launcher tool from *https://kb.secomea.com/docs/appliance-launcher*.
    b. Connect the DEV1 or UPLINK port of the SiteManager to the local network and power it on. The SiteManager must be on the same Subnet as your PC. Alternatively connect the SiteManager with an Ethernet cable directly to your PC.
    c. Power on the SiteManager and wait approx. 1 minute for it to become ready.
    d. Start the Appliance Launcher and the SiteManager should be listed in the first screen. If it does not appear immediately, try pressing the Search button a couple of times. (Note that the Appliance Launcher will only show the SiteManager if your PC has a genuine private IP address (10.x.x.x, 172.16-31.x.x, 192.168.x.x or 169.254.x.x))
    e. Follow the Wizard and set the UPLINK address if you want to use a fixed IP address, or continue the wizard to menu UPLINK2 to set the SSID/WiFi Key for a module with an integrated WiFi module, or PIN Code for an integrated broadband modem.
    f. Configure the GateManager settings.
       Refer to *Configure the GateManager* on page 2 for details.

2. Use the default IP address (10.0.0.1)

    a. Connect the DEV1 port of the SiteManager to the Ethernet port of your PC using a standard Ethernet cable.
    b. Configure your PC's Ethernet adapter to 10.0.0.2 subnet mask 255.255.255.0.
    c. Power on the SiteManager and wait approx. 1 minute for it to become ready.
    d. Type the following in your web browser: https://10.0.0.1
    e. Login with user admin and the SiteManagers' MAC address as password (printed on the product label).
    f. Enter menu System --> UPLINK to set the UPLINK address if you want to use a fixed IP address, or enter menu UPLINK2 to set the SSID/WiFi Key for a module with an integrated WiFi module, or PIN Code for an integrated broadband modem.
    g. Configure the GateManager settings.
       Refer to *Configure the GateManager* on page 2 for details.

3. Use a DHCP server

    a. Connect the UPLINK port of the SiteManager to your local network and power it on.
    b. After approx. 1 minute the SiteManager should have received an IP address from your DHCP server.
    c. Check the lease list of the DHCP server to see what the IP address is.
    d. Type the IP address in your web browser preceded with https:// (e.g. https://192.168.41.13).
    e. Login with user admin and the SiteManagers' MAC address as password (printed on the product label).
    f. Enter menu System --> UPLINK to set the UPLINK address if you want to set a fixed IP address, or enter menu UPLINK2 to set the SSID/WiFi Key for a module with an integrated WiFi module, or PIN Code for an integrated broadband modem.
    g. Configure the GateManager settings.
       Refer to *Configure the GateManager* on page 2 for details.

4. Use a USB memory stick

    a. Start GateManager with the provided domain.
    b. Enter GateManager parameters GateManager Address, Domain Token and SiteManager Name.

    c. Click the "USB Configuration" symbol , and set the UPLINK or UPLINK2 port settings. If the SiteManager is connected to a local Intranet with a DHCP server, you do not have to configure anything.
    d. Click "Create" to save the cfg file locally to your PC.
    e. Copy the cfg file to a fat32 formatted USB memory stick.
    f. Power ON the SiteManager and wait until the SiteManager is ready (Status has stopped blinking)
    g. Insert the memory stick, and wait until the SiteManager has automatically rebooted. If the SiteManager has GateManager access, STATUS should turn green.
    h. Remove the memory stick. No further configuration is needed.

■ Use a Broadband Modem to Access the Internet

The broadband modem connection is referred to as UPLINK2. The SiteManager will as default always attempt to use the Ethernet connection (UPLINK), and only use UPLINK2 if the Internet connection is lost on UPLINK. Once a connection is established on UPLINK2, switching to UPLINK will only be attempted at next reboot, or if the Internet connection on UPLINK2 is lost.
Model RT100-EMM3010: A broadband modem is integrated.
To reduce data traffic, you can configure UPLINK2 to let the broadband connection enter sleep-mode if idle. The connection will be reestablished when sending an SMS to the phone number on the SIM card.
Modem or SIM card without SIM PIN code
Configuration of UPLINK2 in the SiteManager is not required. (The PIN code can be removed from a SIM card by inserting it into a standard mobile phone, and use the remove SIM PIN code function of the phone)
**Modem with SIM PIN code**
If the modem uses a SIM PIN code enter it in the UPLINK2 menu of the SiteManger. The SiteManager will automatically detect the APN (Access Point Name) from an internal table, but the APN can also be manually entered via the SiteManager GUI.
SIM Insertion
Insert the SIM in the SiteManager.

1. Slide the SIM card into the slot and push it inside until you hear or notice the spring lock is activated.
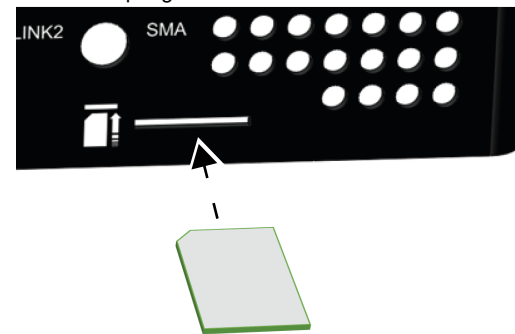
2. Ensure the SIM card is not protruding the SiteManager cabinet. This guarantees the SIM card is properly inserted.

■ Model RT100-W5M3010 (WiFi)

A WiFi client module is integrated.
These models can operate as a WiFi access point.
All other models
The connection is referred to as UPLINK2. When enabling the WiFi client the SiteManager will by default attempt to connect with the SSID "sitemanager" and the MAC address of the SiteManager as WiFi Key.
A specific SSID and WiFi Key can be configured in the UPLINK2 menu of the SiteManager.
These models can operate as a WiFi access point as well.
The SSID to be broadcasted in AP mode and the WiFi Key can be configured in the DEV1 menu of the SiteManager.

■ Configure the Connected Devices

Ensure connected devices are securely configured.

1. Use passwords of connected devices when available.
2. Limit access to devices in GateManager to appropriate users.
3. Limit device configuration in SiteManager to device specific settings and do not open unnecessary ports / settings.
4. When RDP / VNC is opened be aware of other devices on the connected network. Ensure these devices are protected, or move them to a different network.

■ Configure the GateManager

1. In the SiteManager Web GUI enter the menu GateManager --> General (if using the Appliance Launcher, follow the wizard to the GateManager Parameters page).
2. Enter the IP address of the GateManager server that the SiteManager should connect to, and a Domain Token for the domain where the SiteManager should appear. You should have received this information from your administrator or from where you received the SiteManager.
3. When the settings are entered, you should reboot the SiteManager. Observe that the Status LED goes steady Green, which indicates that the SiteManager is connected to the GateManager.
4. Once attached to the GateManager, you can use the GateManager Console or a LinkManager Client to get remote access to the SiteManager Web GUI to perform additional configuration (DEV ports, Agents etc.)
5. Detailed guides, new firmware etc. can be downloaded from *https://kb.secomea.com/docs/*

■ Regulation Notices

Product compliancy: • CE • CAN ICES-3 (A)/NMB-3(A) • FCC 47 cfr part 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

• UL Listed (file #E358541, ITE 4ZP8) • IEC CB certified (DK-30193-A2-UL) • RCM Compliant • Japan Tele MIC (007-D160018007) (model RT100-4GM3010-J)
Specific to models RT100-W5M3010:

1. The module supports IEEE 802.11 b/g/n radio in the 2.4 GHz band, with a maximum output power of +15dBm for IEEE 802.11g/n and +17dBm for IEEE 802.11b
2. The module is listed under FCC Certification ID: QOQWF111 and IC: 5123A-BGTWF111. To fully comply to FCC/IC the maximum gain of a connected antenna must not exceed 2.0 dBi
3. The module supports IEEE 802.11 b/g/n/ac radio in the 2.4 GHz and 5GHz bands, with a maximum output power of +16dBm for IEEE 802.11g/n, +18dBm for IEEE 802.11b and 10dBm for IEEE 802.11ac
4. The module is listed under FCC Certification ID: TLZ-CM389NF and IC: 6100A-CM389NF. To fully comply to FCC/IC the maximum gain of a connected antenna must not exceed 2.0 dBi

Specific to model RT100-4GM3010

1. The module is PTCRB and FCC approved. To fully comply to FCC/IC the following conditions must be met: a) At least 20 cm separation distance between the antenna and the user's body must be maintained at all times. b) The maximum gain of a connected antenna including cable loss in a mobile-only exposure condition must not exceed 3.5 dBi in the cellular band.

Software Licenses and Copyrights

This product incorporates certain third party software. The license and copyright information associated with this software is available at http://www.fa.omron.co.jp/nj_info_e/.

Relevant Manuals RT100